

## Chapter VI

### SINCE 1959

On 26 June 1959, the St. Lawrence Seaway was formally opened, although its 27-foot channel had been unofficially open to deep-draft navigation since 25 April 1959. Over 50,000 spectators were present for the official ceremonies at which President Eisenhower and Queen Elizabeth II presided. In their speeches, both marked the engineering accomplishments and the diplomatic significance of successfully carrying out the joint international project.

The ceremonies took place on both Canadian and American territory. President and Mrs. Eisenhower were met by the Queen and the Prime Minister, John Diefenbaker. The first part of the proceedings took place at the eastern approach to St. Lambert Locks, across the river from Montreal. The dignitaries then boarded the Queen's yacht, *Britannia*, which proceeded through specially constructed gates as it approached the first lock to officially open the Seaway. President Eisenhower remained on board for a five-hour trip to Lower Beauharnois Lock, then disembarked to return to Washington by plane. The next day, the *Britannia* proceeded to Massena and the American locks where Vice President Richard Nixon and the Queen presided over ceremonies to mark their opening.<sup>1</sup>

By that time, Corps of Engineers' involvement in the Seaway had effectively ended. From time to time, however, the Corps performed maintenance tasks for the Corporation, and, through the International Joint Commission and the St. Lawrence River Joint Board of Engineers, Corps officials continued to have an impact on issues that affected the Seaway. After 1959, the Corps' most direct involvement in the Seaway was to conduct feasibility studies on extending the navigation season into the winter months. This program was only one of several efforts, however, to cope with the fact that the Seaway was not living up to the expectations of its most vociferous supporters. In the early 1960s traffic was not up to what had been predicted, and the composition of cargoes remained bulk goods, much as they had always been in the 14-foot canals in use before the Seaway's completion. The Corporation was unable to earn revenues sufficient to meet its obligations to the U.S. Treasury. Moreover, maintenance costs were higher than estimated, thereby aggravating its financial situation.

Many, if not all, of the Seaway's problems stemmed from the dogged opposition of its long-time adversaries among East Coast port interests and the railroads. Through legislation, they prevented the Seaway Development Corporation from advertising and carrying on a campaign to develop business. In the face of the Corporation's inability to meet its financial obligations, they advocated increased tolls. Great Lakes supporters of the Seaway objected that tolls were the reason Seaway traffic did not meet expectations in the first place.

The failure to attract ocean shipping was perhaps the sorest disappointment to Seaway proponents and there was some justice to their argument that the Seaway was hampered by the lack of assistance from the Federal Maritime Administration which assisted ocean ports and shipping. Other problems stemmed from federal policies that ensured the shipment of defense-related materials from East Coast ports, even though large proportions of these goods were produced in the Midwest. The Interstate Commerce Commission was also accused of discriminating in favor of railroads in rate making.

Not all of the Seaway's problems, however, could be attributed to the obstructions of its opponents. Technological changes and the business cycle also affected the Seaway's performance. Those effects were usually adverse, although the waterway did benefit from the oil price increase crisis in 1974 as ships were more efficient users of fuel than railroads or trucks. Containerization had a profound impact at all ports, and those along the Great Lakes were no exception. But converting ports to handle containers was expensive and time consuming. Moreover, the increasing size of ocean-going ships undermined the utility of the Seaway. And, in the mid-1970s, troubles in the American steel and auto industries, as foreign competition cut into American sales, meant less Seaway tonnage.

Seaway proponents, with their long experience in lobbying, turned their attention to these questions. Partly in response to these new concerns, the Corps occasionally became involved in the Seaway's development even though the Corporation had assumed full responsibility for the Seaway's operation.

## **Traffic Patterns on the Seaway**

By the mid-1960s, it was clear that the Seaway was being used in ways not foreseen by its staunchest proponents over the years. Bulk cargoes continued to have greater significance than general cargoes. For one thing, iron ore from Quebec-Labrador was an important return shipment back to the Lakes ports. Moreover, the use of containers for the shipment of general cargo increased, requiring heavy new investments for Great Lakes and St. Lawrence ports. Railroads remained competitive, at least in carrying general cargo, by the introduction of the unit-train, which allowed for long trains carrying containers of truck trailers.<sup>2</sup>

Not surprising was the role the Seaway played in the grain trade. Once opened, the Seaway experienced a marked increase in grain traffic. It was carried efficiently because of larger Lake vessels which had been designed to make maximum use of the Seaway lock system. These, ships with flatter bottoms and wider beams, could carry a greater volume in relation to their size than ocean-going vessels. Lake carriers devoted to moving bulk cargoes eastward became even more efficiently utilized with the development of Quebec-Labrador iron ore production and its shipment westward to American steelmakers located near the Lakes.<sup>3</sup>

While many of the Seaway's proponents had emphasized its potential

as an artery to serve overseas trade, the Seaway proved more important to trade between the United States and Canada. It also was of much greater significance to domestic Canadian than to domestic American trade. This is not surprising, since the major portion of the St. Lawrence Seaway is within Canadian territory. In 1976, “cross-border” trade was 47.5 percent of the total volume of cargo shipped on the Seaway. In that same year 31.5 percent of the traffic was between two Canadian ports and less than one percent between two American ports. Cargo bound overseas in ocean-going vessels accounted for 20.4 percent.<sup>4</sup>

Nevertheless, an important proportion of the goods shipped between American and Canadian ports, and between two Canadian depots, ultimately was sent overseas. Primarily bulk cargoes of grain, these goods were, and are, transferred to seagoing vessels at Quebec ports as most of the ocean-going vessels involved in the trade are too large for the Seaway locks. Indeed, in 1976, 80 percent of the grain shipped along the St. Lawrence was exported. Added to the direct overseas shipments that year, this grain transshipped increased the percentage of goods exported overseas to 37 percent of all traffic on the Seaway. (This reduces cross-border traffic to about 43 percent and all-Canadian trade to 19 percent of total Seaway traffic.)

Shipments from overseas are almost entirely general cargo, that is manufactured or semi-manufactured goods such as steel bars. Most of these general cargoes are destined for the United States, which tends to benefit more from the overseas trade than Canada.<sup>5</sup>

Nevertheless, bulk cargoes represent the largest percentage of Seaway traffic, about 91 percent in 1982 and 1983. Grain is the most important product carried on the Seaway. Although harvest conditions and variable export



The Seaway today. The freighter *Baie St. Paul* travels “downbound” through the Snell Lock to Montreal with a load of wheat.

*St. Lawrence Seaway Development Corporation*

demand affect markets for grain, it has had a growing share of Seaway traffic since 1959. During the 1960s grain accounted for a little more than one-third of the total volume of products carried on the Seaway, with about 55 percent originating from Canada and 45 percent from the United States. Grain shipments are about half wheat, one third corn and barley, and the rest other grains, primarily soybeans. In the 1970s grain became a more important commodity. By the end of that decade, it represented 49 percent of all cargo carried on the Seaway. Projections by both the Seaway Corporation and the Seaway Authority estimate it will be about 54 percent of total traffic in the year 2000.<sup>6</sup>

While Seaway grain shipments have increased as a percentage of total Seaway tonnage, they represent a smaller and smaller proportion of total American grain shipments. The bulk of American grain exported moved through Gulf of Mexico ports. Seaway shipments represented 18 percent of the total in 1970 but only 11 percent in 1975. Atlantic ports did not fare well either, dropping from 20 percent to 6 percent between 1959 and 1971. By 1976, however, unit-trains had helped the Atlantic ports increase their share to 16 percent.<sup>7</sup>

These patterns were determined in good measure by where the grain was grown. Wheat raised in Minnesota, for example, was shipped from Duluth through the Seaway. Wheat grown elsewhere in the Midwest might go down the Mississippi or be shipped by rail to East Coast ports.

Iron ore is the second most important cargo shipped on the St. Lawrence. United States steel manufacturers on the Great Lakes traditionally relied on ore from the Mesabi range in Minnesota at the western end of Lake Superior. By the 1950s, Canada's Quebec-Labrador mines, north of the St. Lawrence River, were producing a portion of the steel industry's needs. This allowed Lake shipping to carry iron ore westward after moving grain to Montreal. The tonnage carried, however, lags behind projections made at the time the Seaway received approval. Then, mining experts thought that ore from the Mesabi range was running out. But the Mesabi has remained viable with the discovery of a method for upgrading ore. Thus, expectations that the Quebec-Labrador ore would supplant that from the Mesabi were not entirely fulfilled. Pre-shipment processing of the Canadians ore, reducing its bulk by turning the ore into pellets, had further reduced the anticipated traffic. Pelletization reduces the weight by almost 30 percent, thus reducing not only bulk, but also revenues from tolls. In any event, there are enormous supplies of ore available in the Quebec-Labrador mines, making future traffic in that commodity likely since the other sources will ultimately be depleted before those ranges. Projections over the next two decades anticipate iron ore remaining about the same as a percentage of traffic on the Seaway: from 24 percent in the 1978-1980 period to 21 percent in 2000.<sup>8</sup>

Coal is the third most important of the bulk cargoes to use the Seaway system. Moved across Lake Erie, the coal then passes eastward through the Welland Canal for use by Canadian power and steel producers. The Welland Canal connects Lakes Ontario and Erie, and is therefore an important part of the total waterway system served by the St. Lawrence Seaway. These connec-

tions have become even more important since the oil crisis of 1974, as coal has become a more important American export, moving farther eastward along the Seaway. In the 1978-1980 period, it represented less than 1 percent of total tonnage, although projections put it at about 4 percent in the year 2000.<sup>9</sup>

General cargo traffic is the next most important for the Seaway. By the mid-1960s, it constituted almost 10 percent of the shipments on the Seaway. In 1971 it had grown to 17 percent, although it declined thereafter, falling as low as 7.5 percent in 1976. Most of this general cargo was inbound to the ports of Chicago, Cleveland, Detroit, Toledo, and Milwaukee. It is generally linked to return shipments of grain. Almost all of the general cargo moved on the Seaway was overseas trade, and 75 percent of it was manufactured iron and steel products.<sup>10</sup>

The development of general cargo traffic on the Seaway was hurt by a number of factors. The growing use of container shipping in the 1960s put the Lakes ports and the St. Lawrence Seaway at a disadvantage with the Atlantic ports. Several of the Lakes ports, therefore, equipped themselves to handle containers. Containers allowed the packing of mixed cargoes in standard containers, reducing the costs of handling. In effect, containerization provided some of the advantages of bulk cargo shipment, since the containers were easily transferred from ship to train or truck. But, although there are smaller container ships, containers can most easily be carried on large ocean-going vessels that cannot pass through Seaway locks.<sup>11</sup>

Even though general cargo was only 9 percent of overall Seaway traffic in 1982, it is nevertheless economically important. It usually represents more costly goods and is of greater importance therefore to the business of Lake ports in terms of income earned.<sup>12</sup> In this area, moreover, the Seaway has fulfilled hopes that it would provide an outlet to overseas trade. General cargo is primarily direct, not transshipped, traffic, thus making Lake ports accessible to ocean-going trade.

Ship size has also affected Seaway traffic in other commodities. The oil industry in the 1960s began to use large ocean-going tankers unable to navigate the Seaway locks. Shipment of oil disappeared totally in 1976 with the opening of the Sarnia-Montreal pipeline, although it was back to about 3 percent in 1982.<sup>13</sup>

Transportation policies in both Canada and the United States affected traffic patterns on the Seaway too. Not only has the United States maintained a competitive waterway system on the Mississippi River, but Canada has subsidized railroads. The rail subsidies were part of a Canadian governmental commitment to encourage the east-west movement of goods and to provide inexpensive transportation for grain and coal. The system established rate objectives that to be met required subsidies, resulting in a rate structure with little relationship to true costs.

The United States' maintenance of an inland water system provided an up-graded alternative water route for the shipment of grain through New Orleans. There were also limited, but positive results from the perspective of the Seaway. Free passage through the "Soo" Locks on the St. Marys River reduced the costs of all users of the Great Lakes-St. Lawrence System.<sup>14</sup>

Overall, however, Seaway traffic suffered from inconsistent Canadian and American transportation policies. The subsidized Canadian railroads and the free United States inland water system siphoned traffic away from the Seaway, while rising operating and maintenance costs and the prospect of higher tolls undermined confidence in the future utility of the Seaway.

Federal-level policies in Canada and the United States have had other effects too. Shipping policies in both countries influence the makeup of the fleets that ply the St. Lawrence Seaway. American-flag ships are not a major factor in St. Lawrence Seaway shipping. Canadian Lakes shipping carries most goods through the Seaway to lower St. Lawrence points. American Lakes shipping is devoted almost entirely to carrying bulk cargoes on the upper lakes.<sup>15</sup>

United States shipping policy has reserved the shipment of goods among American ports for vessels built and registered in the United States. With the opening of the Seaway, Canada adopted a similar policy toward trade on the Great Lakes and the St. Lawrence.<sup>16</sup>

Canada has also dominated St. Lawrence shipping because of her policies of subsidizing ship construction for the coastal trade. After World War II, Canada adopted a policy of subsidizing domestic shipbuilding, while the United States' merchant fleet in general declined. As the Seaway approached completion, Canadians took advantage of building subsidies to construct larger ships capable of making the most efficient use of the enlarged Seaway locks. American Lakes shipping, meanwhile, became dominated by vessels owned by large American steel companies. These ships almost exclusively carried bulk cargoes on the upper lakes. Most ocean-going shipping on the Seaway, therefore, is in non-American-flag ships.<sup>17</sup>

Thus, government shipbuilding subsidies allowed Canadian shipping companies to take full advantage of the Seaway. While the Canadians actively built bulk carriers between 1960 and 1969, the United States did not. The Merchant Marine Act of 1970, however, specifically extended subsidies and other benefits to Lakes shipping. Congress in passing the act materially helped American bulk shipping on the Great Lakes. For one thing, subsidies previously available only to American ships handling general cargo in international trade were extended to Lakes shipping which handled bulk cargo. For another, construction subsidies became available for vessels to be employed in Great Lakes shipping. The program also deferred taxes on the earnings from investment in new ships and provided tax write-offs to refit older ships, while loan guarantees underwrote 87.5 percent of constructing bulk cargo ships.<sup>18</sup>

The situation in Great Lakes shipping between 1959 and 1970 reflected, however, much larger changes. American merchant ships made up less and less of the country's overseas shipping in these years. In 1945 over 60 percent of American trade was carried in United States ships. By 1976 it had declined to about 5 percent. This decline occurred in the face of efforts to compensate for higher costs of operating and building American ships. The 1970 act did have an impact. However, it took until 1975 to reverse the trend that had seen *no* ships of United States registry make scheduled visits to a United

States Lakes port. Then, in 1975 and 1976, operating subsidies allowed two lines to begin Lakes operations.

The Merchant Marine Act of 1970 also helped American Seaway traffic by allowing government cargoes to be shipped from Lakes ports. Before 1970 cargo preference laws then on the books virtually prohibited Lakes ports as points of departure for government cargoes. These laws required that between 50 and 100 percent of the shipments be carried in American-flag ships.

The Great Lakes ports were hurt by this earlier legislation. Aside from the fact that the Seaway shut down for part of the year, there was little interest in the Great Lakes by merchant fleet operators since they were heavily reliant on shipments of government cargoes. Only grains carried because of Public Law 480 (Food for Peace) had any positive impact on the traffic of the Seaway.<sup>19</sup>

Ports along the Seaway and Great Lakes were affected by other government policies. American railroads, for instance, were not required by the Interstate Commerce Commission to offer to short-haul shippers to the Great Lakes the same low rail rates they offered for the long haul of products to be exported from East Coast ports. In Canada, there were similar discriminations. Toronto, for the purposes of rate making, was never considered a point of export, suffering the same short-haul rate discrimination as the American Great Lakes ports. Furthermore, rate making in Canada was complicated by joint operation of Canadian railroad and shipping companies, a policy that would have run afoul of the American antitrust laws.<sup>20</sup>

Other problems related to government policy have affected traffic on the Seaway. One of the most notable was the lack of coordination among American Great Lakes ports in preparing for ocean shipping. Port improvements were a local responsibility for the most part, and, in any case, they were poorly coordinated with federal efforts. In contrast, port development in Canada was a federal responsibility in the 1960s and early 1970s, making the Canadians more responsive to the need for change.<sup>21</sup>

## **Seaway Problems**

As these difficulties led to disappointments in the Seaway, the Corps of Engineers again became directly involved. At times, the Engineers helped the Seaway Corporation maintain facilities by dredging channels and the like. The Corps' major role, however, came in attempts to extend the navigation season and through studies of new facilities. Engineer officials also spoke to and were supportive of several of the new groups formed in the Great Lakes area. Nevertheless, Corps officials were not central to most of the debates about the Seaway's traffic problems. For one thing the Corps saw these skirmishes as the responsibility of the Seaway Corporation which had responsibility for operation and maintenance of the waterway. Then, too, the Corps served the needs of those involved in alternative waterways, as well as the ports most vociferously opposed to the Seaway. They did not want to alienate them or their sup-

porters in Congress. It was, however, in trying to address some of the problems perceived in the 1960s that the Corps was invited back to play a more direct role in the Seaway, especially in studies of extending winter navigation and expanding facilities.

In retrospect, many of the Seaway's problems seem inevitable in view of the constraints that had been put on the waterway from the beginning. In some respects, the problems were the result of serious maladjustments in transportation policy in both Canada and the United States, and between the two countries.

From the perspective of Seaway boosters, however, these disappointments and problems seemed more immediately the result of politics. Seaway proponents had been in the habit of attributing past difficulties to railroad and East and Gulf coast port interests. It was easy to see the opponents' hands in the problems that developed in the 1960s. And, to be sure, as the political battles continued over such issues as tolls, maintenance costs, and shipment of government cargo, those interests remained hostile to the Seaway, and they did advocate policies detrimental to the waterway.

By the mid-1960s, Seaway proponents organized to protect their interests. Tonnage on the Seaway was below expectations, and the administration of the Seaway Development Corporation did not seem aggressive enough for those who had placed high expectation in the project. Moreover, the proponents objected to what they perceived as continued Interstate Commerce Commission rate discrimination, as well as maritime policies that reduced the likelihood of ocean shipping making use of the Seaway. And, as the Seaway Corporation found it harder and harder to pay both the principal and interest on the Seaway debt, Congress explored increasing tolls. Proponents responded adamantly and got in the Merchant Marine Act of 1970 some fundamental changes to help the Seaway. In addition to the subsidies already discussed, Congress authorized the abandonment of interest payments on the Seaway's construction debt.

This lobbying effort involved the strengthening of port, maritime, and industrial organizations in the Great Lakes area. With the waterway in operation, its benefits induced the formation of groups which sought to make more effective use of the Seaway and the Great Lakes maritime system of which it was a part. In 1956, three years before the Seaway opened, maritime firms and port officials in the Lake Erie area had established the Council of Lake Erie Ports (CLEP). The council's purpose was simply to encourage traffic on the new system. In 1960, representatives of both Canada and the United States created the International Association of Great Lakes Ports (IAGLP). Representing 22 major Canadian and American ports, it quickly became the leading group promoting tonnage through the Lakes ports and the Seaway. It also broadened its agenda to look into other issues, such as dredging and pollution control, in which it dealt with the Corps of Engineers, and local industrial development in the vicinity of the ports represented in the group.<sup>22</sup>

Throughout the 1960s and 1970s IAGLP took an active role in promoting the Great Lakes and the Seaway. It became an effective advocacy group, monitoring government policy toward the Atlantic ports. In the 1970s, it sent trade missions abroad to encourage traffic through the Seaway and to



the Lakes ports. The Council of Lake Erie Ports mirrored that work. The council represents only the 12 ports on Lake Erie. In one sense, however, CLEP is somewhat more broadly based in membership than the IAGLP. The council includes international banks, as well as warehouse, freight forwarding, and shipping companies. In the 1960s, CLEP began to sponsor a "Washington Roundup" which brought together all of the Great Lakes and Seaway interests in Washington to meet with interested federal officials and members of Congress.<sup>23</sup>

Other groups formed to meet particular needs. By the late 1960s, these associations frequently gathered to demonstrate the wide-range of interests involved in the Seaway and the Great Lakes. One group similar to CLEP was the Western Great Lakes Port Association which devoted itself to cargo development in the Lake Michigan ports. Shipping companies operating on the Lakes and in the Seaway created the U.S. Great Lakes Shipping Association. But the group with the longest agenda and largest staff is the Great Lakes Commission. Formed in 1955 by the eight Great Lakes states and directed by a retired Corps of Engineers officer, Colonel Leonard J. Goodsell, the commission initially confined itself to water resource problems. As the Seaway began to experience problems in the 1960s, the commission established a Seaway committee and became the coordinator of efforts to change legislation detrimental to the Seaway. It lobbied vigorously to assure that the Seaway was not slighted in the administration of cargo preference laws that pertained to shipments of agricultural and defense cargo. It also was outspoken in its opposition to raising tolls and its support of extending the navigation season and expanding the Seaway system.<sup>24</sup>

All of these groups, plus others such as the Great Lakes Terminals Association, formed a "task force" of associations to bring together diverse interests and present a united front to federal officials and members of Congress. With more money and staff support than the Washington Roundup, the task force lobbied the informal Great Lakes Conference of senators, representatives, and federal officials. They proved effective in getting the Merchant Marine Act of 1970 passed.<sup>25</sup>

The task force brought labor into the efforts to lobby for better federal treatment of the Lakes and the Seaway. This alliance was tenuous, since labor continued to press its own interests over the years. And it did not always agree with what the businessmen in the ports wanted. Union officials, for example, were generally less sympathetic to extending the navigation season. Labor saw sailing the Seaway in the winter as a much more dangerous and difficult proposition than proponents were willing to admit. And labor leaders, if not necessarily their memberships, tended to worry about the environmental impact of winter navigation. Labor also had its divisions and disputes, most notably between Canadian and American pilot unions which often were at odds with each other over pay and working conditions. Pilots were needed to guide ships through the locks. The choice of a Canadian or American pilot depended on the ship's port of destination.

Despite their differences, the unions helped lobby for federal measures to promote traffic and growth in the Great Lakes-St. Lawrence region. Union

officials routinely attended the Washington “round ups,” and they participated regularly in task force efforts in Washington. Their organizations also took part in task force drives to promote foreign trade in the Seaway. Unions participating were the International Longshoremen’s Association, Marine Engineers Beneficial Association, and Great Lakes Association of Stevedores.

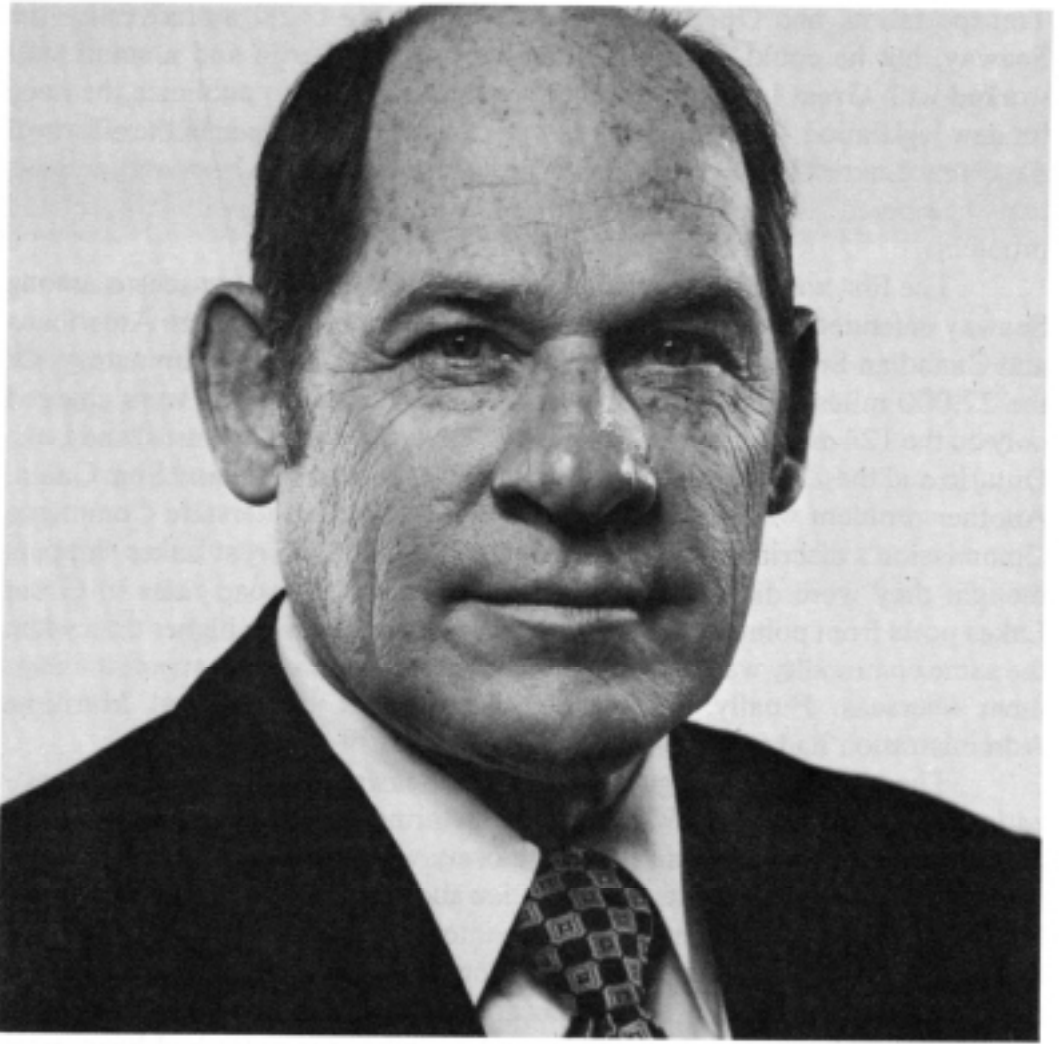
The task force proved as successful as it was in large part because it had an energetic executive secretary in Washington and staff assistance provided by the Great Lakes Commission.<sup>26</sup> Equally helpful to lobbying efforts on behalf of the Seaway was the Industrial Users Group, made up of corporations which shipped their products on the Seaway system. Beginning in 1970 with ten members, the association had well over 100 by 1975. The users group supported many of the lobbying efforts, especially the abolishment of Seaway tolls.<sup>27</sup>

Surprisingly, the Seaway Corporation was not actively involved in many of these lobbying activities. Representatives of the Corporation attended the meetings of and at times addressed the memberships. For the most part, however, the Corporation saw its mission during the decade after 1959 as smooth operation and efficient maintenance. This attitude resulted in part because Congress had by law forbidden the Corporation to advertise the



Joseph H. McCann, Administrator, St. Lawrence Seaway Development Corporation (1962-1969).

*St. Lawrence Sea way Development Corporation*



David W. Oberlin, Administrator, St. Lawrence Seaway Development Corporation (1969-1983).

*St. Lawrence Sea way Development Corporation*

Seaway. Corporation leaders abided by the law, and by extension saw lobbying in the same light, an activity not appropriate to its congressional mandate. Lewis G. Castle's immediate successor was his long-time deputy administrator, Martin W. Oettershagen. He accepted Castle's cautious philosophy toward administering the Seaway, as did his successor, Joseph McCann. By the mid-1960s, when it was clear the Seaway traffic was not meeting expectations, the low-key Corporation administration came in for increasingly sharp criticism from port operators, industrialists, ship operators, and union officials. Indeed, one of the reasons that the Great Lakes area experienced the rapid organizational activity described above had much to do with the attitude of the Seaway Corporation, which to its critics was symbolized by Corporation's administrator.<sup>28</sup>

Richard Nixon's election in 1968 brought changes. Soon after taking office the new President appointed David W. Oberlin administrator of the St. Lawrence Seaway. He was a port official with experience in both Duluth and Toledo. Oberlin moved the Seaway administrator's office from Massena to Washington. Since 1966, the Corporation had been part of the Department of

Transportation, and Oberlin set up shop there. He could not advertise the Seaway, but he could make it politically visible. Oberlin and a small staff worked with Great Lakes representatives and senators to publicize the need for new legislation.<sup>29</sup> The Seaway Corporation thereby joined in the efforts of the Great Lakes Commission and its task force to change laws and policies that hampered the Seaway. They focused on three politically-related problems.

The first was the tolls, and indeed there was a strong consensus among Seaway defenders that this was the most serious problem. To both Americans and Canadian Seaway users the tolls seemed particularly discriminatory. Of the 27,000 miles of navigable waters in North America, tolls were charged only on the 124 miles of the St. Lawrence Seaway between Montreal and Lake Ontario and the 27 miles that made up the all-Canadian Welland Ship Canal. Another problem was what proponents viewed as the Interstate Commerce Commission's discriminatory rate policies. In brief, the Great Lakes shippers thought they were discriminated against since the railroad rates to Great Lakes ports from points in the Midwest were in many cases higher than when the same commodity was sent a further distance to an East Coast port for shipment overseas. Finally, proponents thought that the Federal Maritime Administration had overlooked the Great Lakes.<sup>30</sup>

The most critical legislation for the Seaway since its 1954 authorization, however, was the 1970 Merchant Marine Act. Once in Washington, Administrator Oberlin began to work closely with friendly members of Congress and the Great Lakes task force office and staff. While Congress had forbidden the Seaway to advertise, Oberlin interpreted the law as not preventing him from "educating" the public and Congress about the Seaway. Oberlin faced severe pressures on the Corporation. Traffic had not been what was anticipated which reduced revenues, and maintenance costs had been more expensive than originally planned, thus increasing operating costs. The most difficult burden was the interest owed the U.S. Treasury on the construction bonds. An attempt in 1969 to do away with the entire Seaway debt failed to pass the Congress.

An increase in tolls seemed the only alternative, something of course not distasteful to the Seaway's opponents. Oberlin enlisted the Great Lakes groups to press the new Nixon administration for some relief. After a year of intricate congressional maneuvering, the provisions to assist the Seaway were written into the bill which became the Merchant Marine Act of 1970.

The 1970 legislation provided for the cancellation of the interest owed on the Seaway's construction debt, for a long-term savings of over a billion dollars. Originally introduced to provide one billion dollars to revitalize the American merchant marine with the building of 300 ships, the act also recognized the St. Lawrence-Great Lakes as America's fourth seacoast. Because of that designation, the Federal Maritime Administration opened a Great Lakes office in Cleveland in November 1975. But of more immediate importance, the designation made available tax deferrals and subsidies for constructing and refurbishing ships sailing the Great Lakes. American-flag vessels had virtually disappeared from the Seaway and Great Lakes in the absence of federal assistance. This particularly hurt American traffic because

overseas defense shipments and agricultural products sent abroad as part of the P.L. 480 food program had to be carried in American vessels and the Midwest produced a large proportion of both the military material and the food products to be sent abroad.<sup>31</sup>

While the 1970 legislation clearly helped the Seaway, it was by no means a panacea. Indeed, Seaway problems continued through the 1970s. An increase in the rate of inflation late in that decade hurt the Seaway a great deal. Foreign competition in autos and steel injured two of the major industries in the Great Lakes area, reducing traffic in their products. And the increased politicization of the wheat trade, with large sales to the Soviet Union, added an element of uncertainty to predictions about shipments of grain. By 1978 costs had risen to such an extent, and traffic had at times eroded, that the Seaway was forced to increase tolls by almost 100 percent. These new charges were to be phased in over a three-year period.<sup>32</sup>

In the early 1980s the Seaway continued to face problems. The growing difficulties of the major industries in the area and the United States grain embargo against the Soviet Union disrupted traffic patterns. Also, maintenance charges mounted beyond all expectation because of significant deterioration in the Eisenhower Lock. As a result, the Corporation found it necessary to request the Treasury to reschedule payments on its principal. The agreement was to level payments to \$2 million annually between 1980 and 1985. By 1986, however, these payments would have to be made up, which would have probably required an increase in tolls. The Corporation continued, therefore, to press for cancellation of the remaining debt, something Congress did in passing in the 1983 appropriations bill for the Department of Transportation. President Ronald Reagan signed the bill (PL97-369) on 18 December 1982. This brought the United States into line with Canada, which had cancelled the St. Lawrence Seaway Authority's debt in 1977.<sup>33</sup>

The Corps was not involved in Seaway political affairs for most of the 1960s and 1970s. The Corporation, however, had turned to the Engineers to perform maintenance dredging and for help with the repairs of the locks. In the 1970s, however, the Corps became more directly involved in the Seaway again as it undertook studies on the questions of extending the Seaway season and expanding the facilities in the Seaway system. This new role for the Corps was the result of the waterway's problem. Extending the navigation season, especially, was seen as a way to make the Seaway more productive—making the Seaway available for longer periods of time would, hopefully, increase traffic and revenues. Expanding facilities would relieve existing bottlenecks and take care of the increased demands anticipated by the end of the 1980s.

## **Winter Navigation**

Winter navigation posed formidable engineering, economic, and, ultimately, political challenges. Ice, always a hindrance to man's use of the Great Lakes, closed the Seaway for about three and one half months every year.

Pushed by members from the Great Lakes region, Congress authorized studies of the feasibility of reducing ice on the Great Lakes and St. Lawrence Seaway. The River and Harbor Act of 1965 directed the Corps to study ways in which to extend the navigation season on the Lakes and in the Seaway. Congressional proponents of the study deflected critics by arguing that if economically and technically feasible, an extended navigation season would provide general benefits to local industry, shippers, vessel owners, and port employees.<sup>34</sup>

Corps officials were confident that the season could be extended, although they undertook the study without illusion about the difficulties involved. To be feasible, a program required modifying ice formation, augmenting icebreaking facilities already in place, and reinforcing vessels engaged in winter traffic. In addition, as the Corps looked into the issue, environmental questions arose about the impact of changing the ice formation. Such changes might lead to damage to property in the Great Lakes-St. Lawrence area, damage that would impose extra costs on the program. The changes would also affect the power works, and those interests had to be considered.

After four years of analysis the Corps submitted a feasibility report to Congress. It recommended that further study was necessary, to determine if the quickly changing technology was as yet sophisticated enough to eliminate or at least overcome the effects of ice. If, in fact, further analysis indicated that ice could be reduced, winter operations would be physically possible. The Engineers' recommendation, however, included some cautionary observations. Progress, it observed, was more likely to come through gradual extensions of the winter navigation season rather than from a sudden major expansion. The gradual approach was not only more practical in view of the technical problems involved, but also because of the amounts of money likely to be available for the project.<sup>35</sup>

The report also recommended further study because its investigation had discovered problems not anticipated earlier. High insurance rates to shippers, for example, were likely to prove an obstacle to companies making use of an extended season. The Engineers' report recommended, therefore, a thorough analysis of the costs to be incurred, the economic benefits of such an extended season, and the extent of federal participation necessary to make such a project workable.<sup>36</sup>

Congress accepted the Corps' recommendations and established a "demonstration program" in the Rivers and Harbors Act of 1970. The legislation authorized the Corps to develop a program to demonstrate the practicality of extending the winter navigation in the Great Lakes-St. Lawrence River system. The project divided into three basic parts. First, the Corps was to study the economic benefits from winter navigation. This included an investigation of engineering capabilities, environmental impact, and the role of differing federal agencies. Second, the Corps was, on a limited basis, to undertake some demonstration projects. And, finally, the Engineers were to cooperate with the Secretary of Commerce, through the Maritime Administration, in studying ways to provide attractive insurance rates for shippers likely to be interested in winter navigation.<sup>37</sup>

Congress extended the three-year demonstration program, at the Corps' request, in the Water Resources Development Act of 1974. The demonstration project had proved more costly than initially anticipated, and the legislation also authorized an increase in funding. The Corps was to report on the demonstration program at the end of 1976, with a full feasibility study due in mid-1977.<sup>38</sup>

The Chief of Engineers, Lieutenant General William C. Gribble, Jr., placed the demonstration program under the direction of the North Central Division Engineer. He chaired the Winter Navigation Board (WNB) which had overall responsibility for formulating, coordinating, and reporting on the demonstration program. Other federal agencies were involved in the program through WNB working groups. Each such group was under the leadership of one federal, or "lead," agency which had the responsibility to carry out a particular part of the program. The working groups each had access to technical advisors, as well as private sector observers and representatives. The other federal agencies with major assignments were the Department of Transportation (Coast Guard and St. Lawrence Seaway Development Corporation), the Department of the Interior, the Department of Commerce (Maritime Administration), and the Environmental Protection Agency (EPA).<sup>39</sup>

Congress charged the Corps, through the Winter Navigation Board, to determine whether or not to seek permanent financing for an extended navigation program. For most of the 1970s, therefore, the Engineers were engaged in testing equipment that might be necessary to reduce ice conditions on the St. Lawrence River and the Great Lakes and its other tributaries. The program also included collection of data on ship voyages that had extended beyond the normal navigation season and observations of ice conditions. Much time was devoted to the collection of technical data on how best to improve the design of ships for use during the most extreme part of the winter. The WNB also worked closely with shippers in order to collect and distribute information about weather and ice conditions.<sup>40</sup>

While the demonstration program had broad support among the agencies involved and those in the area that stood to benefit from an extended season, significant opposition also developed during the 1970s. Environmental groups, especially the "Save the River" committee based in the Thousand Islands area of New York, gained national attention. The committee charged that the Corps' ice program would kill the river. An emotionally charged, but effective, campaign gained national television coverage for the committee's efforts. In addition, the program to extend navigation predictably came under attack from the long-term opponents of the Seaway among railroad and East Coast port interests. Within the government itself, however, there was also opposition. Perhaps the most significant criticism came in reports, inspired by the Office of Management and Budget, from the General Accounting Office and the Comptroller General. These studies called into question the economic feasibility of the study.<sup>41</sup>

Alone, probably none of these opponents could have stopped the program. Together, however, they posed a formidable challenge, especially since the Power Authority of the State of New York and the Hydro-Electric Power

Commission of Ontario raised serious legal questions about winter navigation's effect on the ability to generate power. Other Canadian opposition was also a factor. Canadian citizens made up about ten percent of the membership of the "Save the River" committee. In addition, the Canadian government and Parliament showed less interest than the American administration and Congress in ice reduction. Yet Canada's cooperation was essential since boundary waters would be affected by whatever program the United States adopted.

The criticisms by the General Accounting Office and the Comptroller General were contained in a 1976 report to Congress on progress of the demonstration program. The WNB's data suggested that the demonstration program had increased winter traffic on the Lakes and the Seaway. Instead, the GAO maintained that the increases were a result of the activities of the demonstration program itself. In reviewing the Corps' analysis, the GAO analyzed data on shipping to find that the increase in traffic could only be attributed to particular geographical areas, certain commodities, and a few of the largest shipping operations. Areas that had the greatest success were those in the southernmost latitudes of the area being studied, regions where ice was less of a problem. The GAO went on to point out that the winters under analysis had been unusually mild. Moreover, the most successful shippers in winter months had been so before the demonstration program began. They were the largest shippers, such as United States Steel, which had made major investments in new or reinforced ships that could deal with ice conditions. That company also did not rely on outside insurance companies, having the resources to cover itself.<sup>42</sup>

The Corps challenged some of these findings, raising questions about the methods used by GAO. Corps officials were confident that a reexamination of the data would not alter the basic conclusion that winter navigation was both feasible and practical.<sup>43</sup>

Less open to dispute, however, was the fact that the Canadians had not been fully cooperative. In some respects, this was the Comptroller General's most telling criticism of the program to extend winter navigation. From the first, the Canadians had sent an observer to the WNB meetings. But not until the third year of the program had the board asked the State Department to invite Canada to send a representative. It was to be the State Department's responsibility to work out a formal agreement with the Canadians. More troubling, however, was the seeming lack of enthusiasm in Canada for extending the navigation season. Meetings in November 1975 about greater cooperation between the two countries were inconclusive. A four-year Canadian technical and economic feasibility study had been proposed by the government in 1973. The Parliament failed to provide funding, although individual agencies conducted some related studies out of funds in their own budgets.<sup>44</sup>

Nevertheless, the lack of a Canadian program comparable to that in the United States was a serious problem. Below Lake Erie, winter navigation required full Canadian cooperation. The important Welland Canal and over half of the Seaway are in Canadian territory. Private Canadian property owners, industries, and municipalities would have been affected by any program for extension since, with the exception of Lake Michigan, all the lakes are



boundary waters between the two countries. Moreover, the Comptroller General's report made much of the fact that the most severe ice problems in the St. Lawrence occur between Montreal and the international boundary at St. Regis, New York, a reach of river entirely within Canadian territory.<sup>45</sup>

Most troubling to officials at GAO was the fact that what interest the Canadians had shown in extending navigation indicated an approach to the problem different from that of the United States. The WNB demonstration program emphasized policies that would assist navigation in both January and February. In contrast, the Canadians emphasized extending the season through the last two weeks of December and then, in March, trying to open it two weeks earlier. Moreover, the Canadians emphasized detailed analyses of sources of revenue that would be necessary to recover investment and operating costs. The American study gave little attention to the question.<sup>46</sup>

From the Winter Navigation Board's perspective, however, the most troubling issue was the impact of extending the navigation season on the power interests in the Great Lakes area, especially those connected with the St. Lawrence Seaway. The power companies needed stable ice cover on the river in order to generate electricity. To provide stable ice, the companies used "ice booms." These booms were large floating timbers anchored to the river bottom by heavy cables. Any extension of the navigation season, however, required icebreaking among the ice booms. Not only might the booms have been damaged, but icebreaking might have altered river flows thus affecting the ability to generate power.<sup>47</sup>

Extending navigation, therefore, had a potential impact on the generation of power in both the United States and Canada. Almost every channel in the Great Lakes-St. Lawrence Seaway system had hydroelectric power plants. The United States plants accounted for only about 2.5 percent of total American generating capacity, but about 31 percent of the total power capacity in the market area served by the facilities maintained by PASNY.<sup>48</sup>

The power companies and the communities served by them, thus, had a keen interest in the demonstration program. Aside from the technical and economic impact on the power companies, complex legal questions also arose. In the first instance, the extension of navigation might affect the regulation of river flows and levels. Both could cause flooding and erosion after the winter. The power entities had a legal responsibility, given to them by the International Joint Commission, over the regulation of flows and river levels. Ice booms were essential to regulating river flows.<sup>49</sup>

Interfering with the ice booms raised other legal problems. In 1974 the Corps gained permission from the power companies to build several movable booms. In principle, the power companies did not object to the test on movable booms, but they wanted the WNB to take legal responsibility for damages that might result. The board refused, and the power companies objected to the series of scheduled tests. The board authorized one test that was conducted in an area that did not have severe icing. Critics of the entire program questioned the validity of that test. The Corps' response to the issue was to undertake further studies to develop a technology that would ensure that adverse affects from movable ice booms would be kept to a minimum.<sup>50</sup>

The general lack of cooperation from the power entities delayed the work on the demonstration program. Ultimately, however, the most potent opponents were representatives of environmental groups. They were able to gain the support of New York's governor, Hugh Carey, and its senator, Patrick Moynihan, in opposing the extension of the navigation season. According to the National Environmental Policy Act of 1969, federal agencies were required to prepare an environmental impact statement before each major action, recommendation, or report on legislation that might have a major effect on the environment. The contention over the environmental impact stalled the program.

In the 1970s the Corps had become more and more sensitive to environmental issues. Its adversary relationship with some environmental groups faded on water resource management issues. In other areas, a sharp adversarial relationship remained. This was particularly the case in its attempts to reduce ice on the Lakes and St. Lawrence River. The Corps recognized, as part of its mandate, the environmental problems: shoreline erosion, damage to shore structures, increased pollution of waterways, and flooding. The Engineers also had to look into aquatic ecology, a significant issue for critics of the program. A major campaign against the Corps' plans in the St. Lawrence began in 1976. The "Save the River" committee proved effective in garnering public support in the area, national media attention, and sufficient political support from New York officials to stop further work on extending the navigation season. Tests remained incomplete when the program funding expired in September 1977 without congressional authorization for further work. Later, therefore, the Corps informally presented information on the demonstration program to Congress. The completed tests suggested that extending the navigation season was both technically and economically feasible, although observations about the project's environmental impact were left more tentative in the report.<sup>51</sup>

Despite the stalemate on winter navigation, Congress did not abandon interest in the Seaway. Indeed, the debate over winter navigation probably helped the Corporation in some respects. One argument for the winter navigation program was to make the Seaway more profitable. Winter navigation, its proponents maintained, would help the waterway live up to its potential. The cost and controversial nature of extending navigation, however, suggested to some members of Congress that perhaps the best way to help the Seaway was to reduce its costs by forgiving the Seaway debt to the Treasury, a measure which finally received congressional approval in 1982.

## Expanded Facilities

The Corps' involvement in the Seaway did not end with the uncompleted study on ice and winter navigation. The Buffalo District has played a major role in studies of improving Seaway facilities by building new locks and deepening channels.

In the early 1970s, the Buffalo District conducted studies on the feasi-

bility of expanding Seaway facilities. These analyses proposed an all-American canal between Lakes Erie and Ontario to serve as an alternative to Canada's Welland Canal. Corps recommendations were based on projections that showed the Welland Canal becoming almost a permanent bottleneck by 1990, damaging the economies of both Canada and the United States. Increased traffic was not the only consideration. Larger ships, a well-established trend in shipbuilding technology, heightened the possibility of problems for the Seaway and the Great Lakes because the Welland was not able to accommodate them.

The proposed canal would not replace the Welland, but would be built parallel to the existing facilities. An alternative route appealed to shippers—an accident in the Welland in 1974 had closed the canal and Seaway for more than a week. The Corps report also argued that a new canal would stimulate the local economy along its length, requiring a major new port on Lake Ontario and providing benefits to Buffalo at the other end of Lake Erie. Anticipating the successful extension of the navigation season, the Engineers also argued that the new canal would enhance the efficiency of the entire Seaway and Great Lakes navigation system, which would have greater demands put on it when the navigation season was extended.<sup>52</sup>

Response to the report was far from positive. For one thing, critics in Congress and among the Seaway's traditional adversaries attacked the cost of the proposal. In 1972 the Corps estimated the new canal to cost about \$2.3 billion. It would have required the building of four locks, major relocations of roads, railroads, utilities, and homes. Congress was not disposed to fund such an expensive project during the stagflation of the late 1970s.

A similar response awaited another Corps report that recommended building parallel locks in the St. Lawrence Seaway. The new locks were to be longer and wider than the present ones, allowing 45,000-ton ships to use the Seaway as well as the 30,000-ton vessels that were the maximum size for the original Seaway locks.<sup>53</sup>

Canada has also shown interest in upgrading the Seaway system. Canadian traffic represents a greater percentage of total Seaway tonnage, so there has been less Canadian opposition to improvements. Even so, the Canadians have not gone very far with proposals either. In 1974 Canada completed a Welland by-pass canal which straightened the canal near the city of Welland, making navigation easier. Canada's Seaway Authority also expropriated 2200 acres of land east of the Welland Canal in order to build its own parallel works, should they ever be authorized. Like their southern neighbors, however, there was little enthusiasm in Parliament for an expensive program to build new "super" locks in the St. Lawrence Seaway system. By 1982 both Canada and the United States had given up hopes of major expansion of facilities. One of the major assumptions of the joint Seaway Authority and Seaway Corporation study, "Seaway Commodity Flow Forecast, 1980 to 2000," was that there would be no change in lock size or increase in navigation season. The report was to help current planning for future problems of traffic congestion, "without making additional large-scale structural changes."<sup>54</sup>

Thus on its 25th anniversary in 1984 the St. Lawrence Seaway and the Corps of Engineers are not closely related. The Corps' major role had been in



The completed project. At far left is the Wiley-Dondero Canal with the Eisenhower Lock at the upper left and the Snell Lock below. At the bottom of the picture is the tip of Cornwall Island. At right is the town of Cornwall, Ontario, and the Cornwall Canal. The St. Lawrence Power Dam is at the center, the Long Sault Dam to the left.

***New York Power Authority***

the planning and building of the Seaway. Its 1942 report on the feasibility of the project had provided the detailed plans from which the actual design and building of the waterway had taken place. After 1959, the Corps became involved to any great extent only in the attempts to extend the navigation season and expand facilities. Neither of these efforts have been successful. While the Seaway itself has not met the most extravagant expectation of its major proponents, the waterway nevertheless has proved important to the economies of the Great Lakes states. In 1983 the Seaway carried its one billionth ton of cargo, a fitting symbol of its utility. That the waterway did not live up to the hopes of its most ardent defenders has had much to do with unforeseen changes in the major steel and auto industries, as well as in world trade. American grain and, after the oil embargo of 1974, coal, increased in importance as exports. Shipbuilding technology also outpaced expectations, making ocean-going vessels too big for the St. Lawrence Seaway locks. Inflation increased maintenance costs, as did unexpected problems of concrete deterioration in the Eisenhower Lock. Federal policies also hurt the Seaway. After much lobbying these policies were changed, making the Seaway more competitive with other modes of transportation and the East Coast ports. Legislation in 1982 forgave what remained of the burdensome Seaway debt, most likely relieving the Seaway of the need to increase tolls in 1986.

With the stalemate over the extension of winter navigation after 1979, the Corps' role in the Seaway again was reduced. Studies of future traffic have been predicated on the idea that the season would remain as it is now and that the system would not be fundamentally expanded. The Corps' role in the future of the Seaway is thus unlikely to involve more than maintenance work that the Corporation might call upon it to carry out. Even so, the Corps' experience in designing and building the American section of the St. Lawrence Seaway can rightly be a source of great satisfaction. The waterway was completed on time and has proved to be of enormous significance to the economies of the states in the Midwest.